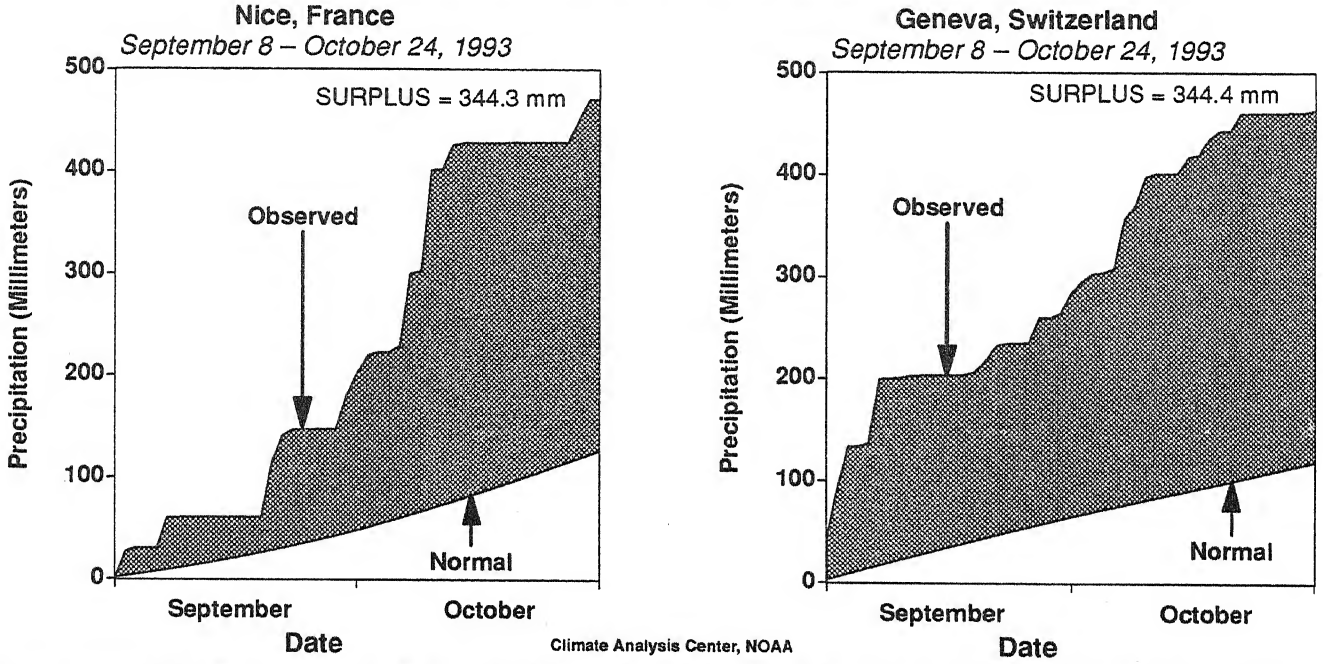
CLIMATE ANALYSIS CENTER

WEEKLY CLIMATE BULLETIN

No. 93/43 Washington, DC October 27, 1993

DAILY CUMULATIVE PRECIPITATION vs. NORMAL



Climate Analysis Center, NOAA

NEARLY TWO MONTHS OF HEAVY PRECIPITATION GENERATE LARGE MOISTURE SURPLUSES THROUGH MUCH OF SOUTH–CENTRAL EUROPE. *Moderate to heavy precipitation brought an abrupt end to a prolonged dry spell through the region in late August. Since early September, a series of storm systems has generated excessive precipitation from south–central France eastward across northern Italy and the Swiss and Austrian Alps into northwestern portions of former Yugoslavia. Totals exceeding 2 1/2 times the normal for the period were measured across large portions of the region (see inside back cover), and amounts of over 1000 mm fell on parts of south–central Switzerland. Farther south and west, totals of 400 – 500 mm in sections of northern Italy and southeastern France represented over three times the normal at some locations. According to press reports, rivers and lakes remained high throughout the region, although additional flood–related impacts were minimized by a dry start to last week. In eastern sections of the affected region, however, heavy rains engendered serious flooding in northwestern Croatia, forcing two towns to be declared disaster areas, according to press reports. In sharp contrast, long–term moisture shortages are generating water supply concerns across extreme southeastern Europe and adjacent Turkey, particularly in the Athens, Greece vicinity.*

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE–NATIONAL METEOROLOGICAL CENTER
CLIMATE ANALYSIS CENTER

WEEKLY CLIMATE BULLETIN

This Bulletin is issued weekly by the Climate Analysis Center and is designed to indicate, in a brief concise format, current surface climatic conditions in the United States and around the world. The Bulletin contains:

- Highlights of major climatic events and anomalies.
- U.S. climatic conditions for the previous week.
- U.S. apparent temperatures (summer) or wind chill (winter).
- Global two–week temperature anomalies.
- Global four–week precipitation anomalies.
- Global monthly temperature and precipitation anomalies.
- Global three–month precipitation anomalies (once a month).
- Global three–month temperature anomalies (once a month).
- Global twelve–month precipitation anomalies (every three months).
- Global twelve–month temperature anomalies (every three months).
- Special climate summaries, explanations, etc. (as appropriate).

Most analyses contained in this Bulletin are based on preliminary, unchecked data received at the Climate Analysis Center via the Global Telecommunications System. Similar analyses based on final, checked data are likely to differ to some extent from those presented here.

STAFF

Editor Richard J. Tinker

Associate Editor Paul Sabol

Contributors Robert H. Churchill

Joseph A. Harrison

Thomas R. Heddinghaus

Alan Herman

Kevin P. Higgins

To receive copies of the **Bulletin** or to change mailing address, write to:

Climate Analysis Center, W/NMC53

Attn: WEEKLY CLIMATE BULLETIN

NOAA, National Weather Service

Washington, DC 20233

For CHANGE OF ADDRESS, please include a copy of your old mailing label.

Phone: (301) 763–4670

WEEKLY CLIMATE BULLETIN REQUESTS

☐ **Please ADD my address to your mailing list.**

☐ **Please CHANGE my address on your mailing list.**

☐ **Please DROP my address from your mailing list.**

NOAA — National Oceanic and Atmospheric Administration — U.S. Department of Commerce

Name

Organization

Address

City State Zip

GLOBAL CLIMATE HIGHLIGHTS

MAJOR CLIMATIC EVENTS AND ANOMALIES AS OF OCTOBER 23, 1993

1. Alaska:

WET WEATHER CONTINUES.

Up to 70 mm of precipitation soaked much of southwestern and south–central portions of the state, although the largest six–week moisture surpluses dropped to 180 mm [8 weeks].

2. Western British Columbia:

STILL VERY DRY.

Up to 90 mm of rain fell on Vancouver Island and parts of the western coastline, but under 50 mm was reported through the rest of the region as the slow start to the wet season continued. Precipitation shortfalls during the last six weeks remained near 270 mm at some locations [9 weeks].

3. Central Gulf Coast:

DRY SPELL ENDS.

Between 20 and 70 mm of rain brought relief from the unusually dry conditions experienced during the past few months [Ended at 17 weeks].

4. Central South America:

RAINS BRING RELIEF; WARM WEATHER EASES.

As much as 270 mm of rain inundated much of Paraguay, Uruguay, and northern Argentina, bringing an abrupt end to the dry spell [DRY – Ended at 17 weeks]. Unusually cool air overspread most of the region; however, temperatures again averaged as much as 6°C above normal in southern Brazil [WARM – 5 weeks].

5. Europe:

MORE HEAVY RAINS.

Up to 140 mm of precipitation drenched the Alps, but farther west, less than 10 mm was reported in the United Kingdom. In the past six weeks, parts of France received up to four times the normal amount while surpluses reached 450 mm in parts of Italy and climbed as high as 720 mm in the Swiss Alps [7 weeks].

6. Southern Africa:

UNUSUALLY WET WEATHER DEVELOPS.

Moderate rains of 20 to 60 mm soaked much of the region while heavy showers dumped up to 110 mm on isolated areas. Some locations have received up to five times the normal amount in the past six weeks, and surpluses for the same period approached 150 mm [6 weeks].

7. Southern Japan:

SOGGY CONDITIONS END.

Months of exceptionally wet weather, characterized by periodic torrential downpours and a few tropical cyclones, ended as precipitation amounts below 20 mm were reported across the region for the second consecutive week [Ended at 19 weeks].

8. Taiwan:

-PRECIPITATION DEFICITS CONTINUE.

Precipitation totals were generally below 30 mm, and six–week shortfalls lingered around 270 mm as unusually dry weather persisted [19 weeks].

9. Southeastern Australia:

MORE WET WEATHER.

Most areas received 20 to 30 mm of rain as unusually wet conditions prevailed; however, northern fringes of the region reported amounts below 20 mm. Most locations measured 200% to 300% of normal during the past six weeks [8 weeks].

UNITED STATES WEEKLY CLIMATE HIGHLIGHTS

FOR THE WEEK OF OCTOBER 17–23, 1993

A stagnant weather pattern brought drenching rain to much of north–central and eastern Texas, southeastern Oklahoma, and Arkansas, with severe thunderstorms generating large hail, damaging wind gusts, and tornadoes. During the first half of the week, over a foot of rain deluged portions of the middle Red River Valley of Texas, Oklahoma, and Arkansas, sending rivers and streams out of their banks and flooding roads. A number of highways south and west of Dallas, TX were also forced to close, including Interstates 35 and 45. Meanwhile, street flooding blocked underpasses and downtown intersections in Texarkana, TX, according to local officials. Late Monday, a powerful wind gust (possibly a tornado) killed a man at Emory, TX while on Tuesday, tornadoes ripped through Del Rio, TX, injuring four people and destroying or damaging several buildings, according to press reports. On Thursday, the weather system moved eastward across the eastern third of the nation, with storms producing brief heavy rains and gusty winds over the Great Lakes, Northeast, and mid–Atlantic. Intense thunderstorms generated winds that knocked down trees and power lines in New York and Virginia. Farther north, the first major storm of the season brought strong wind and heavy rain to southeastern Alaska. Ships in the eastern Gulf of Alaska reported winds gusting to 109 mph while nearly five inches of rain soaked portions of the panhandle.

At the start of the week, showers and thunderstorms covered the Ohio and Tennessee Valleys, eastern Great Lakes, and the Northeast along and ahead of a slow eastward–moving frontal system. Strong thunderstorms also erupted over the central and southern High Plains along the trailing edge of the system's cold front while a low pressure system moving northward off the Atlantic Coast caused steady rain across the mid–Atlantic. Farther west, a developing storm produced rain over the eastern Great Basin and central and southern Rockies, with snow reported in the higher elevations. Southerly winds ushered abnormally warm weather into southern and eastern Texas, where over a half dozen daily high temperature records were established. By Tuesday, the northern portion of the frontal system crossed into the Atlantic Ocean while the southern portion became stationary, meandering from the middle Atlantic Coast, northwestward into the Ohio Valley then southwestward to the southern High Plains. Showers and thunderstorms continued to saturate much of the area, with moderate to heavy rain from eastern Texas northeastward to the eastern Great Lakes and northern Appalachians. Southerly flow continued to bring unseasonably warm air into areas south of the front, with a half dozen daily high temperature records broken or tied from the southeastern Plains to the southern Atlantic Coast on Monday and Tuesday. In the Far West, a Pacific Ocean front raced across the Northwest, Rockies, and northern Plains, generating widespread showers.

At mid–week, the eastern front edged northeastward, bringing soaking rains from the southeastern Plains and the lower Mississippi Valley to the lower Great Lakes and southern New England. Warm air continued to surge northward ahead of the front, with a dozen record highs observed from the central Gulf Coast northward to the central Appalachians and eastward to the southern Atlantic Coast. Meanwhile, the western front sped across the northern Plains and upper Mississippi Valley into the upper Great Lakes, generating scattered showers. By Friday, the western front dissipated after producing more rain over the Great Lakes while the eastern front moved into the Atlantic Ocean, with the southern portion becoming stationary across Florida. Daily high temperature records continued to be set well south of the front, with eight new records along the southern Atlantic Coast States on Thursday and two in Florida on Friday. Elsewhere, two more Pacific Ocean fronts moved quickly across the Northwest, northern Rockies, and northern Plains, generating heavy to moderate precipitation along the northern Pacific Coast. At week's end, tranquil weather prevailed across most of the nation, with rain limited to the Florida peninsula and to the northern Pacific Coast ahead of yet another Pacific Ocean cold front.

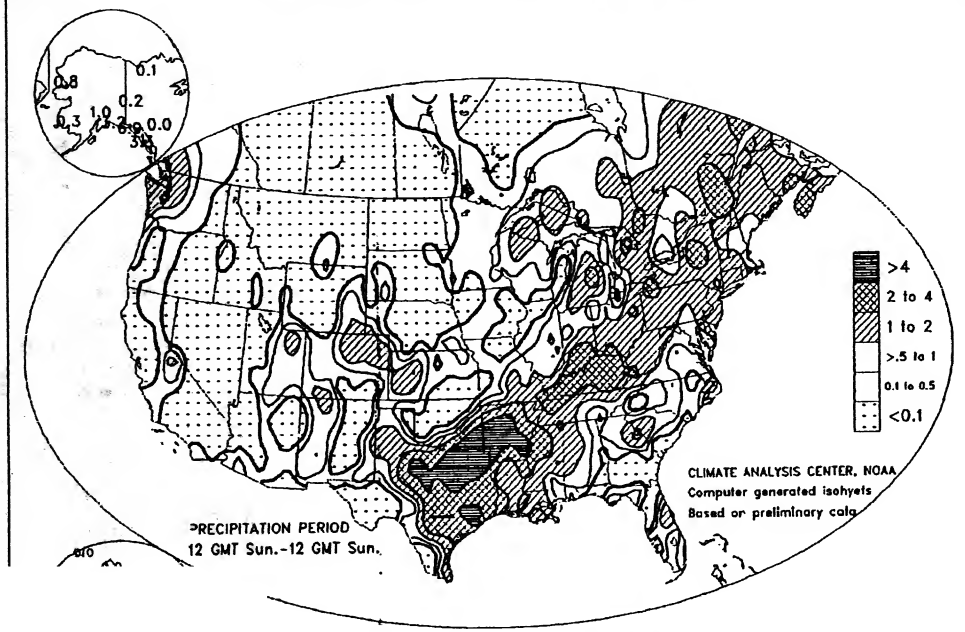
According to the River Forecast Centers, the greatest weekly precipitation totals (from two inches to fourteen inches) fell from the eastern half of Texas and the central Gulf Coast northeastward to the lower Ohio Valley. In addition, totals exceeding two inches were reported in southeastern Alaska, with similar totals scattered across the Southeast, the Northeast, the eastern Great Lakes, the central Plains, the northern Pacific Coast, and the Big Island of Hawaii. Light to moderate precipitation fell on the central and southern Rockies, the Sierra Nevadas, the eastern Great Basin, and the remainders of the central and southern Plains, the Pacific Northwest, Alaska, and the eastern half of the nation. Little or no precipitation occurred in the Intermountain West, the northern Rockies, the northern Plains, and the remainders of the Far West and Hawaii.

Above normal temperatures prevailed in the Far West, the northern Intermountain West, the northern Rockies, the northern Plains, the upper Mississippi Valley and from southern Texas northeastward to the lower Great Lakes and eastward to the Atlantic Coast, with weekly departures from +3°F to +8°F observed from the lower Mississippi Valley eastward to the middle and southern Atlantic Coast. In Alaska, exceptionally warm conditions continued over much of the state, with weekly departures reaching +13°F at Barrow. Temperatures averaged near normal across Hawaii.

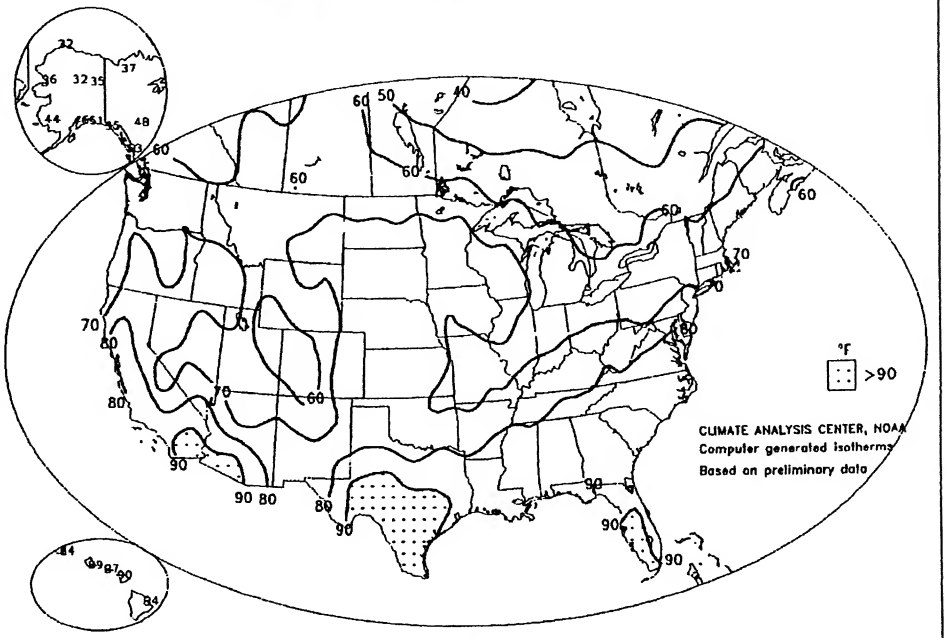
Unseasonably cool weather covered much of the Great Basin, desert Southwest, the central and southern Rockies, the central and southern Plains, the middle Mississippi Valley, and the upper Great Lakes, with temperatures averaging 6°F to 8°F below normal in the west–central Rockies and northern portions of the southern Plains. Temperatures dipped below freezing as far south as the middle Rio Grande Valley. Below normal temperatures were restricted to the interior southeastern portions of Alaska, with temperatures averaging 4°F below normal at Gulkana.

UNITED STATES WEEKLY CLIMATE CONDITIONS *(October 17 – 23, 1993)*

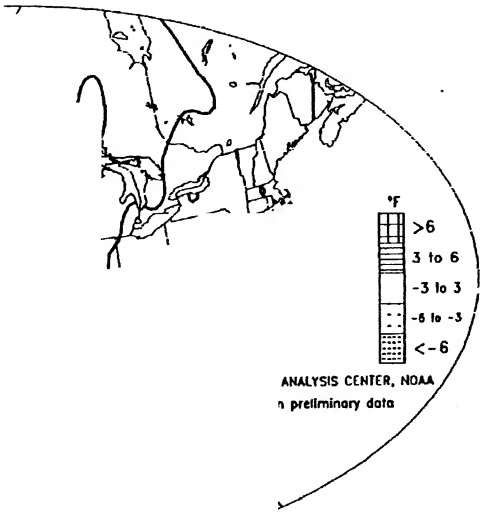
OBSERVED PRECIPITATION (INCHES)



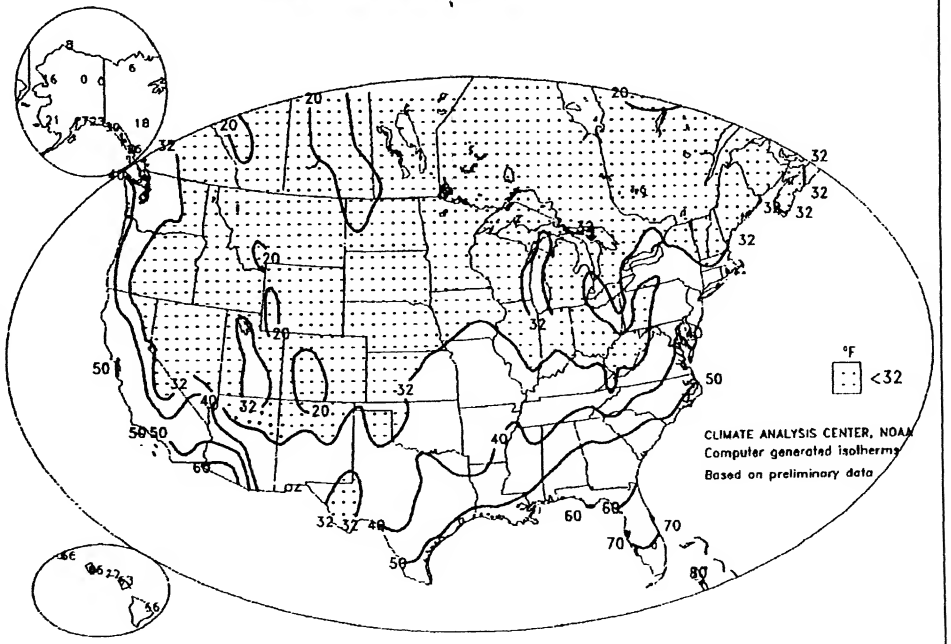
EXTREME MAXIMUM TEMPERATURE (°F)



DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)

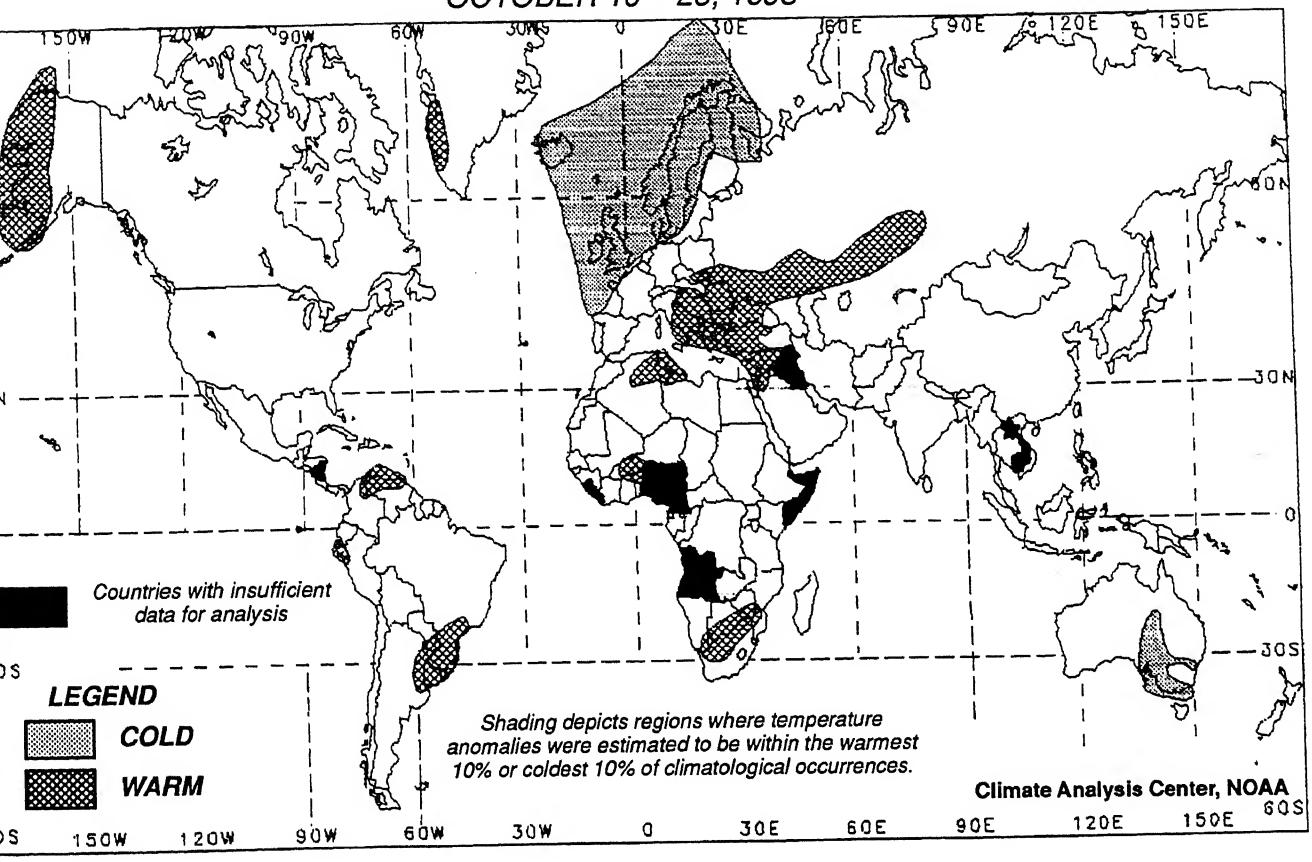


EXTREME MINIMUM TEMPERATURE (°F)



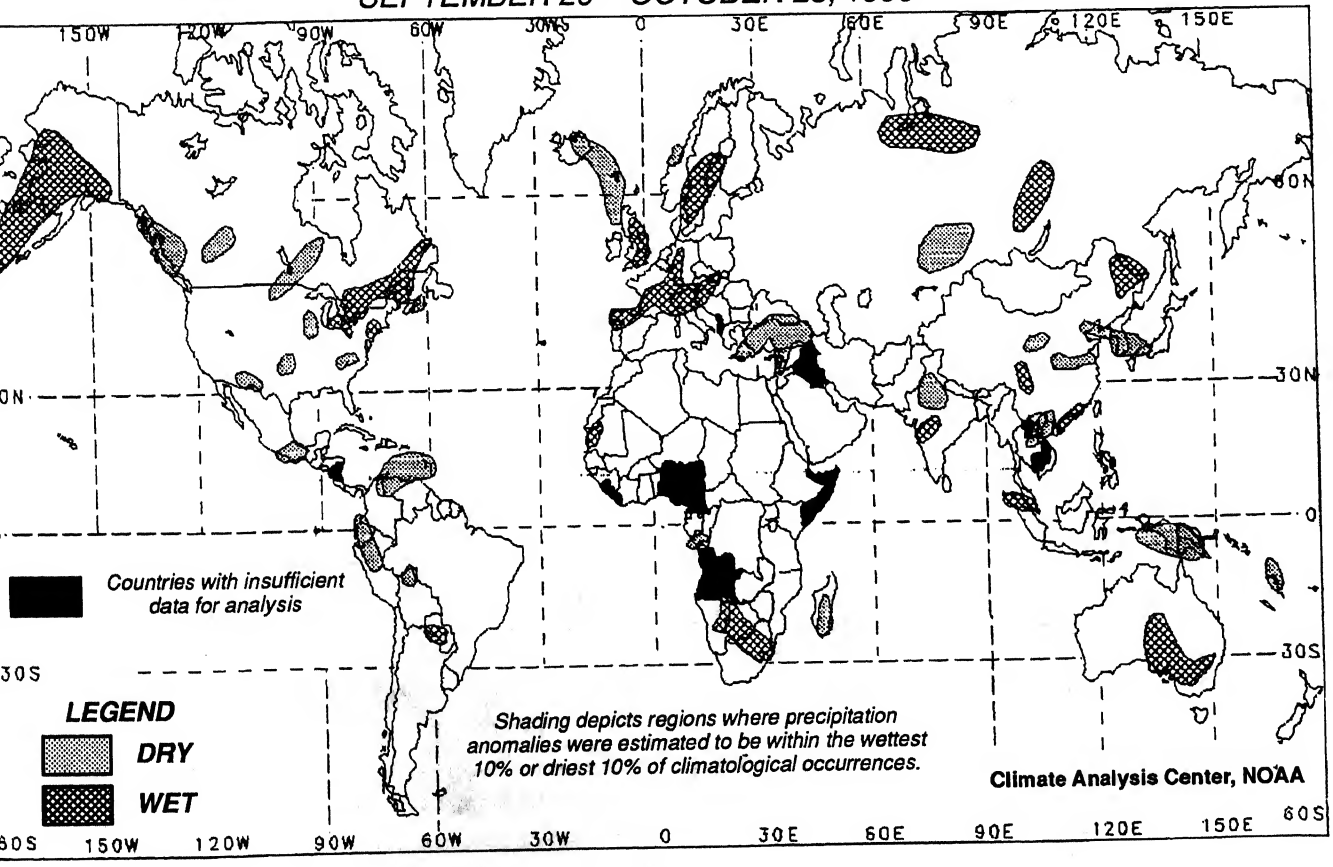
TWO–WEEK GLOBAL TEMPERATURE ANOMALIES

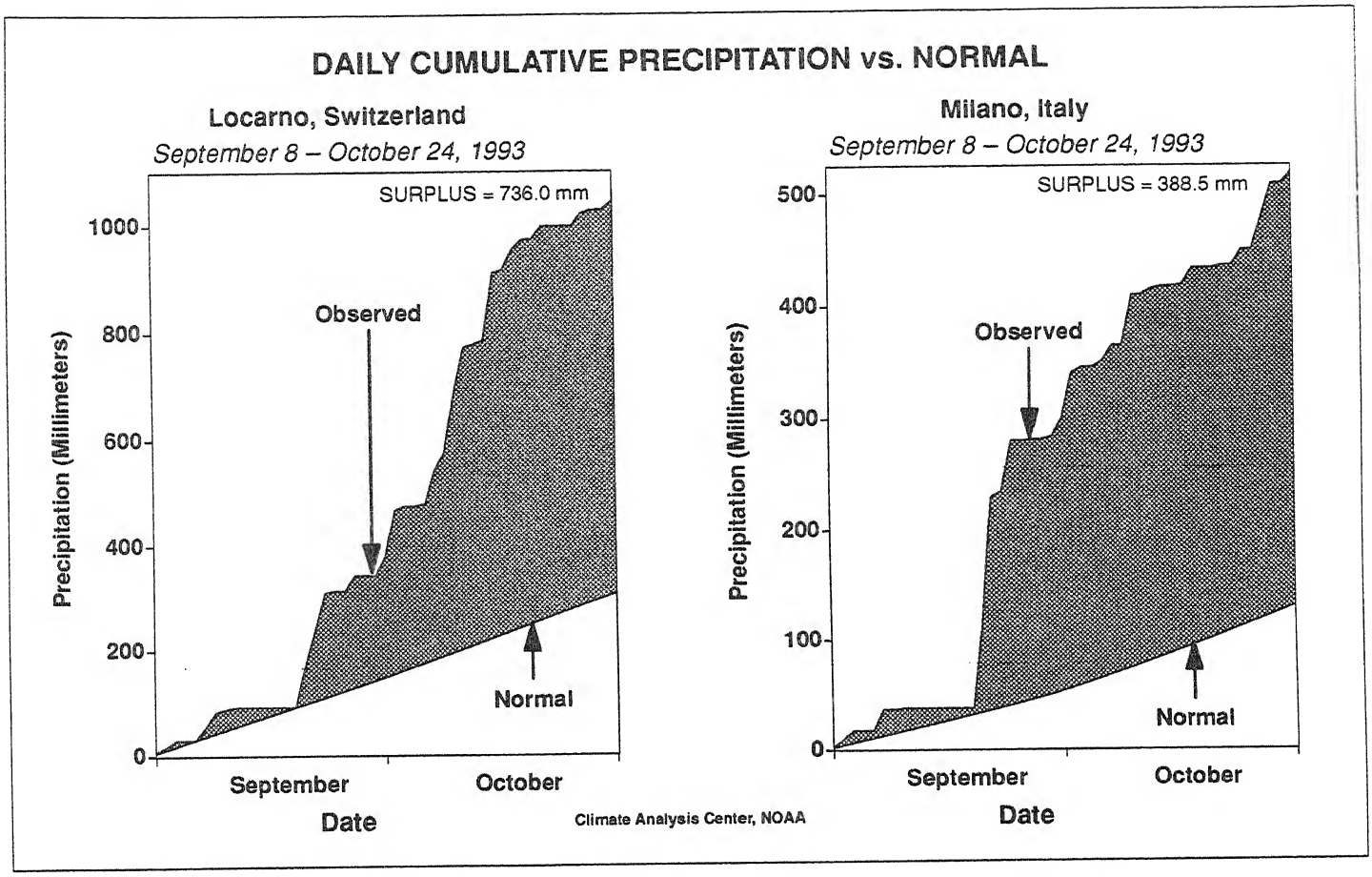
OCTOBER 10 – 23, 1993

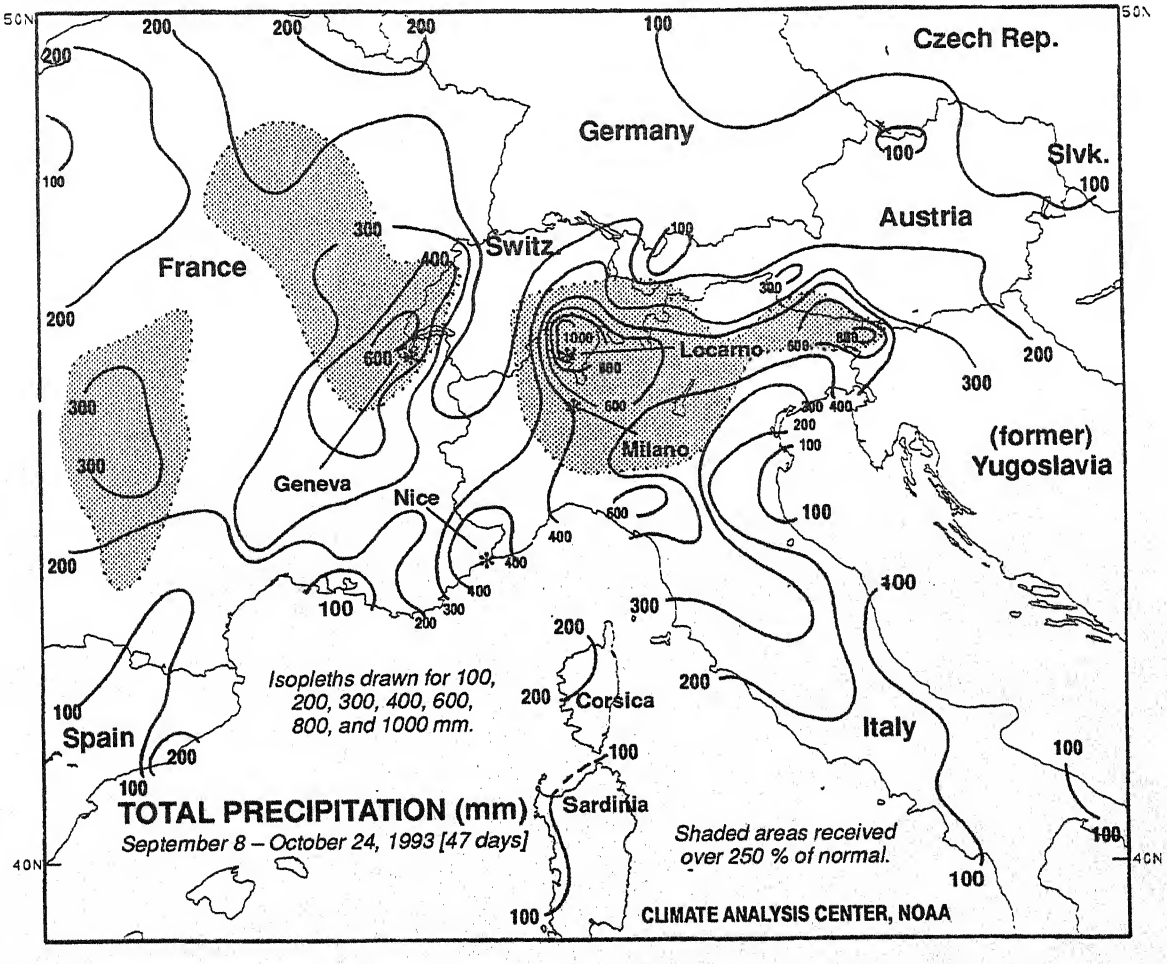


FOUR–WEEK GLOBAL PRECIPITATION ANOMALIES

SEPTEMBER 26 – OCTOBER 23, 1993




DAILY CUMULATIVE PRECIPITATION vs. NORMAL
Locarno, Switzerland
September 8 – October 24, 1993
SURPLUS = 736.0 mm
Observed
Normal
Precipitation (Millimeters)
1000
800
600
400
200
0
September
October
Date
Milano, Italy
September 8 – October 24, 1993
SURPLUS = 388.5 mm
Observed
Normal
Precipitation (Millimeters)
500
400
300
200
100
0
September
October
Date
Climate Analysis Center, NOAA


50N
40N
Czech Rep.
Germany
Slvk.
Austria
Switz.
France
Locarno
Milano
Geneva
Nice
(former)
Yugoslavia
Spain
Corsica
Sardinia
Italy
Isopleths drawn for 100, 200, 300, 400, 600, 800, and 1000 mm.
TOTAL PRECIPITATION (mm)
September 8 – October 24, 1993 [47 days]
Shaded areas received over 250 % of normal.
CLIMATE ANALYSIS CENTER, NOAA